

**UNITED STATES PATENT APPLICATION**

**FOR**

**A TENSION RELIEVING APPARATUS FOR ARMS AND NECK**

Inventor:  
Cynthia R. Gourd

Attorney Docket No. GOU525-00/03263

Attorneys for Applicant  
Head, Johnson & Kachigian  
228 West 17th Place  
Tulsa, Oklahoma 74119  
(918) 587-2000

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Amy Miles

## **A TENSION RELIEVING APPARATUS FOR ARMS AND NECK**

### **Reference to Pending Applications**

5           This application is not related to any pending applications.

### **Reference to Microfiche Appendix**

          This application is not referenced in any microfiche appendix.

### **Technical Field of the Invention**

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          In general, the present invention is generally directed towards extremity support apparatus and more particularly to a tension relieving apparatus for the arms and neck which combines a generally oblong shaped pillow, first and second resiliently tensioned arm supporting members and first and second connection members to support the rear portion of human neck and forearms.

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### **Background of the Invention**

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          Call center personnel most particularly those personnel subjected to repetitive typing tasks in which the arms must be repeatedly positioned in response to consumer elicited information induces unbelievable physical stress to neck and arm portions of the human body. "Call center representatives" are women and men who assist residents, businesses and other clients in establishing or changing product orders, resolving problems, billing and a host of other customer related activities. Contrary to the popular image that suggests call center personnel are all young, single and have high turnover, more than half of those responding to the report are forty (40) years

of age or older. Few of them (10%) are under 25 years of age and almost half are currently married and 44% report that they have had at least one child under the age of 18 at home living with them. The median worker has worked for their employer for 10 years and has worked in the current position for 4 years. Succinctly stated, call center representatives interacting directly with the public appear to be middle age, or rapidly approaching middle age, are under tremendous pressures to perform within deadlines suggesting a very high pressure environment and are expected to perform without making mistakes. This combined pressure obviously manifests itself in a variety of tension related maladies including, but not limited to, neck tension and arm fatigue in association with repeatedly typing data into a computer that has been structured for call center representatives / client customer interaction.

A recent survey citing stress in the call center entitled “A Report On The Worklife of Call Center Representatives In The Utility Industry” written by Stephanie Luce and Tom Juravich, documents the physical and mental stresses placed upon such workers. The Luce/Juravich report in part found that (a) almost two-thirds (61%) report that the sufficiency of their privacy is “poor” or “extremely poor”, (b) almost three quarters (72%) report the pace of work has “increased” or “increased dramatically” over the past year, with 78% reporting these same changes occurring over the past two years, (c) approximately one half (48%) report that staffing is “inadequate” or “extremely inadequate”, (d) the most significant factors contributing to stress include demanding customers, time pressures monitoring and pressure to complete calls, (e) one third (30%) report that stress often affects call center personnel physically and emotionally, (f) forty percent report that stress “often” or “regularly” affects their work performance, (g) workers report a variety of physical manifestations of stress including fatigue, irritability, inability to relax, headaches and backaches

with almost one third (31%) report missing some work days due to stress, with a median of five days missed days per year.

Many employees spend a good portion of their day on-line, although some define that as being on the phone and others on the computer. Regardless, the median worker is on-line 84 percent of their day. As a result, 23 percent feel they never have enough time to complete other tasks, and 44 percent feel they have enough time only some of the time.

On a ten-point scale, with ten being the highest, one third of those surveyed (32 percent) rate their current stress as a ten. The overall average is 7.9. Looking at specific factors, "demanding customers" stands out clearly as the most stressful aspect of the job, with 60 percent reporting this feature as very stressful, and more than three-fourths reporting this as causing "very much" or "much" stress. The other most stressful features are "time pressures," "monitoring," and "pressure to complete calls." This reflects earlier responses noting formal quotas for the number of calls that must be made per day, but not for the amount of sales.

In terms of physical conditions, more than 40 percent of the respondents say that they often or regularly experience fatigue, irritability, inability to relax, headaches, backaches, and vision problems. Much less common are hearing and respiratory problems.

A national study by Office Organix identified computer workers at risk for stress injuries. The study concluded that over 18 million Americans are at significant risk from RSI (risk stress injuries) including carpal tunnel syndrome (CTS) and lower back injuries. Call center representatives clearly fall into this category of computer workers. In the unique situation of the call center representative, however, it is easily envisioned where the believably high pressure requirements inducing stress enhance the maladies caused by the workplace failure to provide properly sized and positioned computing furniture. By providing a unique apparatus to support the

pressure areas of the human neck and to assist the call representative in minimizing the adverse consequences of gravity, the instant invention directly addresses two most significant risk factors to the typical call representative. With respect to the study conducted by Office Organix, it was found that 51% of organizations placed keyboards too high and thus contributed to neck, shoulder and wrist stress leading to CTS causes. The monitors placed too high in 65% of workers contributing to neck and shoulder stress and 47.8 cradle a foam between the head and shoulder during calls instead of using a headset. The report further found that especially dangerous over time 51.2% of respondents report when keyboarding they support their upper body by resting on their hands with a real red flag being that 59.8% suffer from wrist pain during computer work while not alleging to eliminate exposure to CTS causing events, the instant invention by affording a support mechanism which at the users direction can position the arms in a manner to minimize CTS symptoms, the instant invention greatly assists in lower the cost of business from CTS absenteeism which frequently exceeds \$50,000 per year per employee when wrist surgery is required. Simply stated, though many of the costs associated with poor equipment design could be avoided with simple changes in equipment placement and employee involvement in ergonomics which changes in involvement do not appear to be in the near future. Consequently, an object of the instant invention is to provide a means by which call center / computer workers can reduce likelihood of injury occasioned by repetitive arm/wrist movements and stress inducing cognitive factors.

### **Brief Summary of the Invention**

Given the deficiencies of the contemporary art, the cognitive and physical stress placed upon computer workers, most particularly those computer workers who must simultaneously interact with a customer base, it is an object of the instant invention to disclose and teach a tension relieving apparatus for the arms and neck which comprise in combination a generally oblong shaped pillow having an exterior portion, an interior section and first and second ends with each of the ends respectively attached to first and second connection members. The first and second connection members are then further attached to first and second resiliently tensioned arm supporting members.

It is a further object of the instant invention to teach the tension relieving device wherein the interior portion may further comprise a vibration and/or heat inducement means to further relieve tension and provide adjustable tensioned support to the rear portion of the human neck.

It is yet another object of the instant invention is to disclose and claim a device whereby resiliently tensioned arm supporting members may be positioned about the human wrist or forearm and thus minimize the adverse effect of gravity.

Another object of the instant invention is to teach a device in which a user may adjustably influence the amount of pressure needed to relieve neck tension and/or arm support.

A further object of the instant invention is to teach the invention's tension reducing device in which the interior portion of the pillow may be partially filled with any of a variety of cushioning materials conformable to the shape of the rear portion of the human neck.

Other objects and further scope of the applicability of the present invention will become apparent from the detailed description to follow, taken in conjunction with the accompanying drawings wherein like parts are designated by like reference numerals.

5 The novel configuration of the instant invention specifically directs itself towards to the alleviation / resolution of the afore noted stress and physical detriments by disclosing and claiming a tension relieving apparatus for the arms and neck comprising in combination a generally oblong shaped pillow having an exterior portion, an interior section and first and second ends with each of the ends respectively attached to the first and second connection members; and first and second resiliently tensioned arm supporting members each respectively attached to the first and second  
10 connection members.

### **Description of the Drawings**

Figure 1 is a perspective view of one embodiment of the instant invention.

Figure 2 is an illustration of the embodiment of Figure 1 when positioned in accordance with the teachings of the instant invention about a human neck and forearm area.

5            Figure 3 is readily envisioned alternative embodiment of the instant invention wherein the internal portion of the invention has been partially vacated of cushioning material in an amount necessary to allow positioning therein of a vibrator and/or heat introduction means.



### **Detailed Description of the Preferred Embodiment**

While the making and using of various embodiments of the present invention are discussed in detail below, it should be appreciated that the present invention provides for inventive concepts capable of being embodied in a variety of specific contexts. The specific embodiments discussed  
5 herein are merely illustrative of specific manners in which to make and use the invention and are not to be interpreted as limiting the scope of the instant invention.

The claims and the specification describe the invention presented and the terms that are employed in the claims draw their meaning from the use of such terms in the specification. The same terms employed in the prior art may be broader in meaning than specifically employed herein.  
10 Whenever there is a question between the broader definition of such terms used in the prior art and the more specific use of the terms herein, the more specific meaning is meant.

While the invention has been described with a certain degree of particularity, it is clear that many changes may be made in the details of construction and the arrangement of components without departing from the spirit and scope of this disclosure. It is understood that the invention is  
15 not limited to the embodiments set forth herein for purposes of exemplification, but is to be limited only by the scope of the attached claim or claims, including the full range of equivalency to which each element thereof is entitled.

Referring to the drawings, in which similar or corresponding parts are identified with the same reference numeral and more particularly to Figure 1, the present invention includes a pillow  
20 designed generally at 10 having an exterior portion 11, first and second ends 14 and 16, first and second connection members 20 and 22, and first and second resiliently tensioned arm supporting members 28 and 30 which are each respectfully attached to the first and second connection members

20 and 22. The generally oblong shaped pillow of the instant invention 10 as shown in Figure 1 is comprised of three surface areas 32, 36, 38 though it is readily appreciated and envisioned by those skilled in the art given the disclosure and claims of the instant invention, alternative embodiments of the instant invention can be presented in a variety of form including those forms which embody a lesser or greater number of surface facings. The interior portion of the pillow 10 is not shown on Figure 1 will be discussed in association with Figure 3. The first and second connection members 20 and 22 are each respectfully attached to the first and second ends of the pillow 14 and 16 via a stitching or other similarly intended attachment means. Such means would include but not be limited to cloth material stitches, a intermediate swiveling device or clip or indeed hook and loop type structures typically referred to under the trademark name Velcro®. In Figure 2, an illustration is disclosed of the embodiment of Figure 1 when positioned in accordance with the teachings of the instant invention adorned about a human neck and forearm area(s). Turning now to Figure 2.

In Figure 2 it is disclosed where a person 50 has adorned or otherwise positioned the device of the instant invention 10. In so doing, exterior surface area 36 of cushion 11 has been placed about the human 50 shoulders with surface area 38 generally surrounding the rear half of the human neck. Interior surface area 32 is generally and oppositely positioned that of surface area 38. Connecting members 20 and 22 of the instant invention are further shown connected to resiliently tensioned supporting members 28 and 30 via attachment means 41 and 42, as disclosed and discussed in association with Figure 1, to pillow first end 15 and second end 16 respectively. Attachment means 41 and 42 might very well be an intermediary swiveling device, cloth stitching or hook and loop type structures. Succinctly stated, attachment means 41 and 42 would be adequately served by any means which would reliably attach or otherwise communicate the respectful attachment of resiliently

tensioned members 28 and 30, and first and second pillow ends (14, 16) to connection members 20 and 22. Also shown in Figure 2 is the dynamic and adjustable positioning capability of the instant invention whereby when moving a human's forearms and wrists in a downward motion as indicated by lines 53 and 54, resiliently tensioned first and second members 28 and 30 expand to allow such  
5 downward movement and at the same time precipitate increasing support pressure on the rear portion of a human neck with proportionately increasing pressure indicated as lines 56 and 58. Should the human 50 wish to decrease pressure as indicated by arrows 56 and 58, he or she merely needs to operatively move one or more arms upwardly in a direction opposite that indicated by lines 53 and 54 to alleviate the pressure. Consequently, the instant invention affords the user the dynamic  
10 modification of positive influencing pressure to the users neck as well as gravity defying support as provided by first and second resiliently tensioned members 28 and 30 which have been positioned about a person's arm 60 or wrists 62.

Figure 3 is readily envisioned alternative embodiment of the instant invention wherein the internal portion of the invention has been partially vacated of cushioning material in an amount  
15 necessary to accommodate positioning therein of a vibrator and/or heat introduction means. Turning now to Figure 3.

In Figure 3 it is observed where the pillow of the instant invention 10 where the interior  
portion 15 of pillow 10 has been partially vacated indicated by hyphenated line 31. Said interior  
portion 15 has been partially vacated of cushioning material to allow the insertion of a heating or  
20 massaging device 37 through pocket entry illustrated as elements 54 and 55 with such device 37  
being either battery or AC connected.

With respect to Figures 1 through 3, it is clear the resiliently tensioned supporting members 23, 30 is comprised of a loop-like structure which is adaptable to expansion and compression in response to an applied load. When the load is applied via descending motion of an arm/forearm/wrist, said resiliently tensioned members 28, 30 expand shape, and recover to their original shape when the applied load is removed. Consequently the resiliently tensioned members of the instant invention may be constructed of any such material that allows such expansion and recovery. Such materials without limitation would comprised of cloth and latex based compositions, such as bungee cord materials, or indeed any other elastomeric material. As disclosed earlier, the interior portion of the invention's pillow may be partially or completely filled with a cushioning material with such cushioning material being defined without limitation as foam-based cushioning material, cloth material, or indeed any other material that would conform generally to the rear portion of the human neck.

The deployment of the instant invention is comprised without limitation the steps of providing a generally oblong shaped pillow having an exterior portion, an interior portion and first and second ends with each of said ends respectfully attached to first and second connection members and first and second resiliently tensioned arm supporting members each respectfully attached to said first and second members. To orient the apparatus so provided about the rear section of the human neck and above the human shoulders, then looping or otherwise positioning the first and second resiliently tensioned arm support members about the wrist or general forearm area of the human being and tensioning the pillow of the instant invention as desired by either moving arms in a downward or upward movement.

It will of course be understood that various changes may be made in form, details, arrangement and proportions of the apparatus without departing from the scope of the invention, which generally stated consists of an apparatus capable of carrying out the objects above set forth, in the parts and combination of parts as disclosed and defined in the appended claims.